

What is claimed is:

- 1 1. A process for preparing a stable suspension of a protein material in an acidic  
2 beverage, comprising;  
3 forming a preblend (I) by mixing  
4 (A) a hydrated protein stabilizing agent and  
5 (B) at least one flavoring material comprising a fruit juice, a vegetable  
6 juice, citric acid, malic acid, tartaric acid, lactic acid, ascorbic acid, glucono delta  
7 lactone or phosphoric acid; and  
8 mixing preblend (I) and  
9 (C) a hydrated and homogenized protein material slurry wherein the  
10 homogenization is carried out in two stages comprising a high pressure stage of from  
11 1500-5000 pounds per square inch and a low pressure stage of from 300-1000 pounds  
12 per square inch to form a blend; and  
13 pasteurizing and homogenizing the blend wherein the homogenization of the  
14 blend is carried out in two stages comprising a high pressure stage of from 8000-  
15 30,000 pounds per square inch and a low pressure stage of from 300-1000 pounds per  
16 square inch;  
17 wherein the acid beverage composition has a pH of from 3.0 to 4.5.
- 1 2. The process of claim 1 wherein the protein stabilizing agent (A) comprises a  
2 hydrocolloid.
- 1 3. The process of claim 1 wherein the hydrocolloid comprises alginate,  
2 microcrystalline cellulose, jellan gum, tara gum, carrageenan, guar gum, locust bean  
3 gum, xanthan gum, cellulose gum and pectin.
- 1 4. The process of claim 1 wherein the protein stabilizing agent (A) is a high  
2 methoxyl pectin.

- 1 5. The process of claim 1, wherein within preblend (I), the weight ratio of  
2 (A):(B) is from 15-45:5-30.
- 1 6. The process of claim 1, wherein within preblend (I), the weight ratio of  
2 (A):(B) is from 20-40:8-25.
- 1 7. The process of claim 1, wherein within preblend (I), the weight ratio of  
2 (A):(B) is from 25-35:10-20.
- 1 8. The process of claim 1 wherein the pH of the protein stabilizing agent (A) is  
2 from 2.0-5.5.
- 1 9. The process of claim 1, wherein the weight ratio of preblend (I):(C) is from  
2 30-60:40-7-.
- 1 10. The process of claim 1, wherein the weight ratio of preblend (I):(C) is from  
2 35-55:45-65.
- 1 11. The process of claim 1, wherein the weight ratio of preblend (I):(C) is from  
2 40-50:50-60.
- 1 12. The composition of claim 1 wherein within (C) the slurry has a solids content  
2 of from 5-20% by weight.
- 1 13. The composition of claim 1 wherein within (C) the slurry has a solids content  
2 of from 8-18% by weight.
- 1 14. The composition of claim 1 wherein within (C) the slurry has a solids content  
2 of from 10-15% by weight.

- 1 15. The process of claim 1 wherein the protein material (C) comprises a soybean  
2 protein material, casein, whey protein, wheat gluten or zein.
- 1 16. The process of claim 15 wherein the soybean protein material comprises a soy  
2 flour, soy concentrate or soy protein isolate.
- 1 17. The process of claim 16 wherein the soybean protein material comprises a soy  
2 protein isolate.
- 1 18. The process of claim 1 wherein within (C) the high pressure stage is from  
2 2000-3000 pounds per square inch.
- 1 19. The process of claim 1 wherein within (C) the low pressure stage is from 400-  
2 700 pounds per square inch.
- 1 20. The process of claim 1 wherein the protein material (C) comprises a  
2 hydrolyzed protein material or a non-hydrolyzed protein material.
- 1 21. The process of claim 20 wherein the protein material (C) comprises a  
2 hydrolyzed protein material.
- 1 22. The process of claim 1 wherein the pH of the acid beverage composition is  
2 from 3.2-4.0.
- 1 23. The process of claim 1 wherein the pH of the acid beverage composition is  
2 from 3.6-3.8.
- 1 24. The process of claim 1 wherein within the blend, pasteurizing is carried out at  
2 a temperature of at least 180°F for at least 10 seconds.

- 1 25. The process of claim 1 wherein within the blend, pasteurizing is carried out at  
2 a temperature of at least 190°F for at least 30 seconds.
- 1 26. The process of claim 1 wherein within the blend, pasteurizing is carried out at  
2 a temperature of at least 195°F for at least 60 seconds.
- 1 27. The process of claim 1 wherein within the blend, the high pressure stage is  
2 from 12,000-25,000 pounds per square inch.
- 1 28. The process of claim 1 wherein within the blend, the high pressure stage is  
2 from 15,000-20,000 pounds per square inch.
- 1 29. A process for preparing a stable suspension of a protein material in an acidic  
2 beverage, comprising;  
3 forming a preblend (I) by mixing  
4 (A) a hydrated protein stabilizing agent and  
5 (B) at least one flavoring material comprising a fruit juice, a vegetable  
6 juice, citric acid, malic acid, tartaric acid, lactic acid, ascorbic acid, glucono delta  
7 lactone or phosphoric acid; and  
8 forming a preblend (II) by mixing  
9 (A) a hydrated protein stabilizing agent; and  
10 (C) a hydrated and homogenized protein material slurry wherein the  
11 homogenization is carried out in two stages comprising a high pressure stage of from  
12 1500-5000 pounds per square inch and a low pressure stage of from 300-1000 pounds  
13 per square inch; and  
14 mixing preblend (I) and preblend (II) to form a blend; and  
15 pasteurizing and homogenizing the blend wherein the homogenization of the  
16 blend is carried out in two stages comprising a high pressure stage of from 8000-  
17 30,000 pounds per square inch and a low pressure stage of from 300-1000 pounds per  
18 square inch;  
19 wherein the acid beverage composition has a pH of from 3.0 to 4.5.

1 30. The process of claim 29 wherein the protein stabilizing agent (A) comprises a  
2 hydrocolloid.

1 31. The process of claim 29 wherein the hydrocolloid comprises alginate,  
2 microcrystalline cellulose, jellan gum, tara gum, carrageenan, guar gum, locust bean  
3 gum, xanthan gum, cellulose gum and pectin.

1 32. The process of claim 29 wherein the protein stabilizing agent (A) is a high  
2 methoxyl pectin.

1 33. The process of claim 29, wherein within preblend (I), the weight ratio of  
2 (A):(B) is from 15-45:5-30.

1 34. The process of claim 29, wherein within preblend (I), the weight ratio of  
2 (A):(B) is from 20-40:8-25.

1 35. The process of claim 29, wherein within preblend (I), the weight ratio of  
2 (A):(B) is from 25-35:10-20.

1 36. The process of claim 29 wherein the pH of the protein stabilizing agent (A) is  
2 from 2.0-5.5.

1 37. The process of claim 29, wherein within preblend (II), the weight ratio of  
2 (A):(C) is from 60-80:20-40.

1 38. The process of claim 29, wherein within preblend (II), the weight ratio of  
2 (A):(C) is from 65-75:25-35.

1 39. The process of claim 29, within preblend (II), the weight ratio of (A):(C) is  
2 from 65-73:27-32.

- 1 40. The process of claim 29 wherein within (C) the slurry has a solids content of  
2 from 5-20% by weight.
- 1 41. The process of claim 29 wherein within (C) the slurry has a solids content of  
2 from 8-18% by weight.
- 1 42. The process of claim 29 wherein within (C) the slurry has a solids content of  
2 from 10-15% by weight.
- 1 43. The process of claim 29 wherein the protein material (C) comprises a soybean  
2 protein material, casein, whey protein, wheat gluten or zein.
- 1 44. The process of claim 43 wherein the soybean protein material comprises a soy  
2 flour, soy concentrate or soy protein isolate.
- 1 45. The process of claim 44 wherein the soybean protein material comprises a soy  
2 protein isolate.
- 1 46. The process of claim 29 wherein within (C) the high pressure stage is from  
2 2000-3000 pounds per square inch.
- 1 47. The process of claim 29 wherein within (C) the low pressure stage is from  
2 400-700 pounds per square inch.
- 1 48. The process of claim 29 wherein the protein material (C) comprises a  
2 hydrolyzed protein material or a non-hydrolyzed protein material.
- 1 49. The process of claim 48 wherein the protein material (C) comprises a  
2 hydrolyzed protein material.

1 50. The process of claim 29 wherein the weight ratio of preblend (I):preblend (II)  
2 is from 25-55:45-75.

1 51. The process of claim 29 wherein the weight ratio of preblend (I):preblend (II)  
2 is from 30-50:50-70.

1 52. The process of claim 29 wherein the weight ratio of preblend (I):preblend (II)  
2 is from 35-45:55-65.

1 53. The process of claim 29 wherein the pH of the acid beverage composition is  
2 from 3.2-4.0.

1 54. The process of claim 29 wherein the pH of the acid beverage composition is  
2 from 3.6-3.8.

1 55. The process of claim 29 wherein within the blend, pasteurizing is carried out  
2 at a temperature of at least 180°F for at least 10 seconds.

1 56. The process of claim 29 wherein within the blend, pasteurizing is carried out  
2 at a temperature of at least 190°F for at least 30 seconds.

1 57. The process of claim 29 wherein within the blend, pasteurizing is carried out  
2 at a temperature of at least 195°F for at least 60 seconds.

1 58. The process of claim 29 wherein within the blend, the high pressure stage is  
2 from 12,000-25,000 pounds per square inch.

1 59. The process of claim 29 wherein within the blend, the high pressure stage is  
2 from 15,000-20,000 pounds per square inch.